CLAIMS

What is claimed is:

1. A method of fabricating a support structure comprising:

forming a layer of material into said support structure, said layer of material adapted to be attached onto a substrate surface;

treating said layer of material; and

etching said layer of material, such that said support structure is implementable during assembly of a display device.

2. The method as recited in Claim 1 further comprises attaching said layer of material upon said substrate surface prior to forming said layer of material and treating said layer of material and etching said layer of material.

3. The method as recited in Claim 1 further comprises attaching said layer of material upon said substrate surface subsequent to forming said layer of material and treating said layer of material and etching said layer of material.

4. The method as recited in Claim 1 wherein said substrate surface is glass, and wherein said layer of material is photochemically sensitive glass, and wherein the physical properties of said layer of material are compatible with the physical properties of said substrate structure.

5. The method as recited in Claim 1 wherein said substrate surface is glass, and wherein said layer of material in photochemically insensitive glass, and wherein the physical properties of said layer of material are compatible with the physical properties of said substrate structure.

6. The method as recited in Claim 2 wherein attaching said layer of material on said substrate surface further comprises performing a diffusion bonding process thereon.

7. The method as recited in Claim 2 wherein attaching said layer of material on said substrate surface further comprises performing a thin film sealing glass process thereon.

8. The method as recited in Claim 1 wherein forming said layer of material further comprises a photolithographic process performed thereon.

9. The method as recited in Claim 1 wherein treating said layer of material further comprises applying an elevated temperature to said layer of material when said layer of material is not attached to said substrate surface, and wherein treating said layer of material further comprises applying an elevated temperature to said layer of material and to said substrate surface when said layer of material is attached thereto.

10. The method as recited in Claim 1 further comprises blackening a surface of said layer of material, such that said blackened surface of said layer

of material is interposed between said layer of material and said substrate surface when said layer of material is attached onto said substrate surface.

11. The method as recited in Claim 1 further comprises blackening a surface of said substrate surface, such that said blackened surface of said substrate surface is interposed between said layer of material and said substrate surface when said layer of material is attached onto said substrate surface.

12. The method as recited in Claim 1 wherein said substrate surface is an anode faceplate of said display device, and wherein said support structure is interposed between said anode faceplate and a cathode back plate of said display device.

13. The method as recited in Claim 1 wherein said substrate surface is a cathode back plate of said display device, and wherein said support structure is interposed between said cathode back plate and an anode faceplate of said display device.

14. The method as recited in Claim 1 wherein etching said layer of material further comprises sandblasting said layer of material with frozen particles of carbon dioxide, such that said substrate surface is unaffected by said sandblasting when said layer of material is attached to said substrate surface prior to said etching, when said layer of material is photochemically insensitive glass.

15. The method as recited in Claim 1 wherein etching said layer of material further comprises chemically washing said layer of material, such that said substrate surface is unaffected by said chemical washing when said layer of material is attached to said substrate surface prior to said washing, when said layer of material is photochemically sensitive glass.

16. The method as recited in Claim 1 wherein said display device is a field emission display.

17. A method of fabricating a support structure comprising:

attaching a layer of material onto a substrate surface, said layer of material adaptable as said support structure;

forming said layer of material into said support structure;

treating said layer of material; and

etching said layer of material, such that said support structure is implementable during assembly of a display device.

18. The method as recited in Claim 17 wherein said layer of material is photochemically sensitive glass and wherein said substrate surface is glass, and wherein the physical properties of said layer of material are compatible with the physical properties of said substrate surface.

19. The method as recited in Claim 17 wherein said layer of material is photochemically insensitive glass and wherein said substrate surface is glass,

and wherein the physical properties of said layer of material are compatible with the physical properties of said substrate surface.

20. The method as recited in Claim 17 wherein attaching said layer of material onto said substrate surface further comprises performing a diffusion bonding process thereon.

21. The method as recited in Claim 17 wherein attaching said layer of material onto said substrate surface further comprises performing a thin film sealing glass process thereon.

22. The method as recited in Claim 17 further comprises blackening a surface of said layer of material, such that said blackened surface of said layer of material is interposed between said layer of material and said substrate surface when said layer of material is disposed upon said substrate.

23. The method as recited in Claim 17 further comprises blackening a surface of said substrate surface, such that said blackened surface of said substrate surface is interposed between said layer of material and said substrate surface when said layer of material is disposed upon said substrate surface.

24. The method as recited in Claim 17 wherein forming said layer of material further comprises performing a photolithographic process thereon.

25. The method as recited in Claim 17 wherein treating said layer of material further comprises applying an elevated temperature to said layer of material and said substrate structure.

26. The method as recited in Claim 17 wherein etching further comprises sandblasting said layer of material with frozen particles of carbon dioxide, such that said substrate surface to which said layer of material is attached is unaffected by said sandblasting, when said layer of material is photochemically insensitive glass.

27. The method as recited in Claim 17 wherein etching said layer of material further comprises chemically washing said layer of material, such that said substrate surface is unaffected by said chemical washing when said layer of material is attached to said substrate surface prior to said washing, when said layer of material is photochemically sensitive glass.

28. The method as recited in Claim 17 wherein said substrate surface is an anode faceplate of said display device, and wherein said support structure is interposed between said anode faceplate and a cathode back plate of said display device.

29. The method as recited in Claim 17 wherein said substrate surface is a cathode back plate of said display device, and wherein said support structure is interposed between said cathode back plate and an anode faceplate of said display device.

30. The method as recited in Claim 17 wherein said display device is an field emission display.

31. A method of fabricating a support structure comprising:

forming said layer of material into said support structure;

treating said layer of material;

etching said layer of material; and

attaching said layer of material onto a substrate surface, such that said support structure is implementable during assembly of a display device.

32. The method as recited in Claim 31 wherein said layer of material is photochemically sensitive glass and wherein said substrate surface is glass, and wherein the physical properties of said layer of material are compatible with the physical properties of said substrate surface.

33. The method as recited in Claim 31 wherein said layer of material is photochemically insensitive glass and wherein said substrate surface is glass, and wherein the physical properties of said layer of material are compatible with the physical properties of said substrate surface

34. The method as recited in Claim 31 wherein attaching said layer of material on said substrate surface further comprises performing a diffusion bonding process thereon.

35. The method as recited in Claim 31 wherein attaching said layer of material on said substrate surface further comprises performing a thin film sealing glass process thereon.

36. The method as recited in Claim 31 further comprises blackening a surface of said layer of material, such that said blackened surface of said layer of material is interposed between said layer of material and said substrate surface when said layer of material is disposed upon said substrate.

37. The method as recited in Claim 31 further comprises blackening a surface of said substrate surface, such that said blackened surface of said substrate surface is interposed between said layer of material and said substrate surface when said layer of material is disposed upon said substrate surface.

38. The method as recited in Claim 31 wherein forming said layer of material further comprises performing a photolithographic process thereon.

39. The method as recited in Claim 31 wherein treating said layer of material further comprises applying an elevated temperature to said layer of material and said substrate structure.

40. The method as recited in Claim 31 wherein etching said layer of material further comprises sandblasting said layer of material with frozen

particles of carbon dioxide, such that said substrate surface to which said layer of material is attached is unaffected by said sandblasting, when said layer of material is photochemically insensitive glass.

41. The method as recited in Claim 31 wherein etching said layer of material further comprises chemically washing said layer of material, such that said substrate surface is unaffected by said chemical washing when said layer of material is attached to said substrate surface prior to said washing, when said layer of material is photochemically sensitive glass

42. The method as recited in Claim 31 wherein said substrate surface is an anode faceplate of said display device, and wherein said support structure is interposed between said anode faceplate and a cathode back plate of said display device

43. The method as recited in Claim 31 wherein said substrate surface is a cathode back plate of said display device, and wherein said support structure is interposed between said cathode back plate and an anode faceplate of said display device.

44. The method as recited in Claim 31 wherein said display device is a field emission display.

45. A method of fabricating a support structure comprising:

providing a substrate surface, from which said support structure is fabricated;

making a portion of said substrate surface photochemically sensitive;

forming said photochemically sensitive portion of said substrate surface into said support structure;

treating said substrate surface; and

etching said photochemically sensitive portion of said support structure, such that said support structure is implementable during assembly of a display device.

46. The method as recited in Claim 45 wherein making a portion of said substrate surface photochemically sensitive further comprises diffusing of doping elements into said substrate surface, such that the portion of said substrate surface with doping elements diffused therein is said photochemically sensitive portion of said substrate surface.

47. The method as recited in Claim 45 wherein forming said photochemically sensitive portion of said substrate surface further comprises a photolithographic process performed thereon.

48. The method as recited in Claim 45 wherein treating said substrate surface further comprises applying an elevated temperature thereto.

49. The method as recited in Claim 45 wherein etching said photochemically sensitive portion of said support structure further comprises

sandblasting said photochemically sensitive portion of said support structure with frozen particles of carbon dioxide, such that said substrate surface not photochemically sensitive is unaffected by said sandblasting.

50. The method as recited in Claim 45 wherein etching said photochemically sensitive portion of said support structure further comprises chemically washing said photochemically sensitive portion of said support structure, such that said substrate surface not photochemically sensitive is unaffected by said chemical washing.

51. The method as recited in Claim 45 wherein said substrate surface is an anode faceplate of said display device, and wherein said support structure is interposed between said anode faceplate and a cathode back plate of said display device.

52. The method as recited in Claim 45 wherein said substrate surface is a cathode back plate of said display device and wherein said support structure is interposed between said cathode back plate and an anode faceplate of said display device.

53. The method as recited in Claim 45 wherein said display device is a field emission display.

54. A method of sandblasting comprising:

providing frozen particles for use during said sandblasting;

propelling said frozen particles at a pressure sufficient to sandblast a first material; and

directing said propelled frozen particles at said first material, such that sandblasting of said first material is provided.

55. The method as recited in Claim 54 wherein said frozen particles are frozen submicron particles of carbon dioxide, said frozen submicron particles of carbon dioxide residuelessly evaporate subsequent to exposure to temperatures above freezing.

56. The method as recited in Claim 54 wherein said frozen particles are comprising physical properties enabling sandblasting of said first material when combined with a second material while unaffecting said second material with which said first material is combined, provided said first material is less hard than said second material.

57. The method as recited in Claim 54 wherein said frozen particles are comprising physical properties enabling sandblasting of said first material when attached to a second material while unaffecting said second material upon which said first material is attached, provided said second material is harder than said first material.